

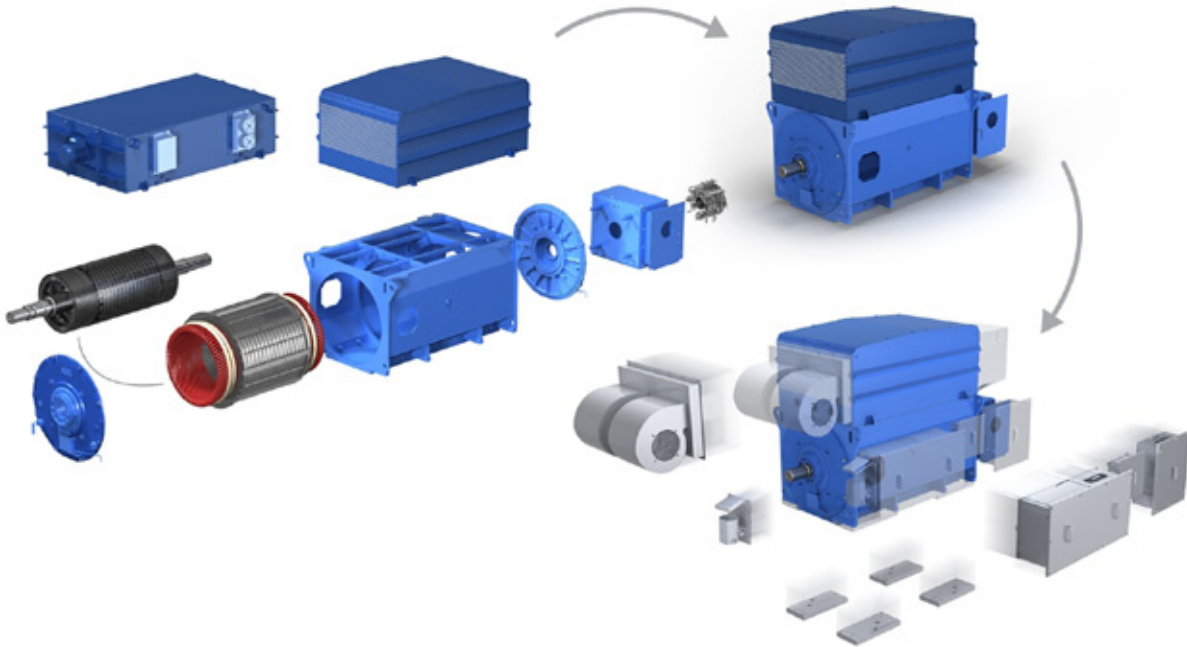


Brochure

Wind power generators

Standard slip ring generator series for doubly-fed concept from 1.5 MW upwards

Featuring an enhanced rotor design, ABB's wind power generators are designed to fit most DF turbines of today.

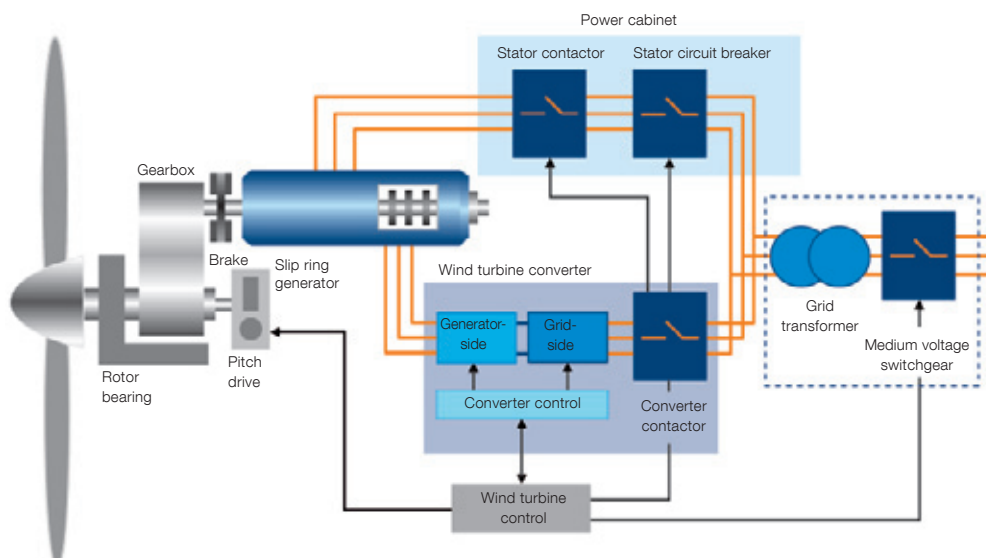


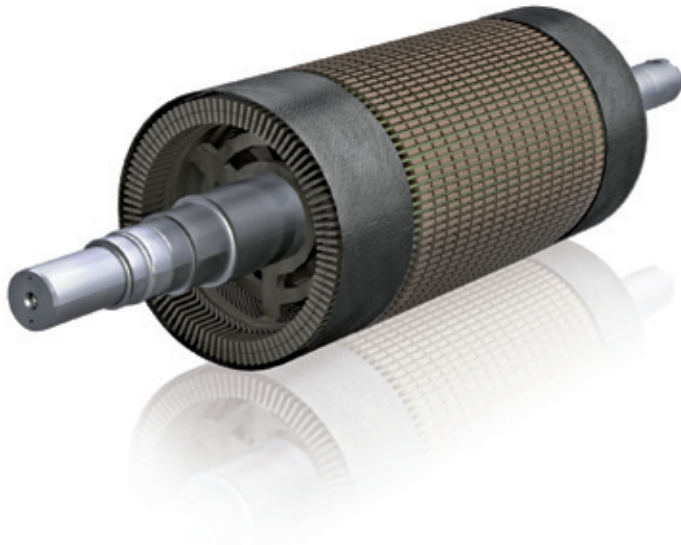
- Standard design from 1.5 MW upwards – with both air or water cooling
- Modular component structure – to fit in most turbines used today
- Customer specific modifications – for different interface connections
- New improved rotor design – to withstand overspeeds and voltage peaks

The Doubly-fed (DF) generator concept (Cascade drive)

The DF generator is a wound rotor asynchronous machine, with the rotor windings connected to a small converter via slip-rings and brushes. The generator feeds power both from the directly connected stator (approx. 2/3 of P_n) and the

rotor (approx. 1/3 of P_n). The converter enables control of the generator speed, power and power factor, thus giving a wider speed range for production and providing the ability to feed reactive power to support the grid.





New ABB rotor design:

Patented carbon-fiber winding-end support rings
 – to withstand sudden uncontrolled overspeeds

Increased insulation level (2.5 kV)
 – to match most converter designs

Minimized Total Harmonic Distortion (THD)
 – especially 5th and 7th order

Improved cooling
 – for continuous reactive power production

Typical performance characteristics of the AMK500 and 560 series:

Power	1.5 to 3 MW
Efficiency at rated speed	appr. 97...97,5%
Cooling	IC 616 or IC 86W
Mounting and protection	IM1001 (inclined 4...8 deg), IP54
Voltage	690 V +/-10%, 50 or 60 Hz
Locked rotor voltage	approx. 1800 V or 2000 V
Rated speed	1750 rpm
Operation speed range	1000...2000 rpm
Max. overspeed	3000 rpm
Power factor	p.f. 0.90 cap...1.0...0.90 ind
Insulation class/Temp.rise	F/B (at Un, p.f. 0.95 cap and 40°C)
Temperature range	-20°C...+40°C; extended -30°C...+50°C
Max dimensions, weight	500: L3150 x W1600 x H1850 mm, 6 - 6.7 tn 560: L3500 x W2100 x H2000 mm, max 11 tn

Proven ABB solutions provide continuous operation for maximum energy production with lowest lifetime cost.



Proven ABB slip ring design:

Specialized production know-how
 – from leading slip ring manufacturers

Reliable construction through joint development
 – half a century ABB in-house design expertise

Superior cooling air circulation
 – for continuous reactive power production

Your reliable partner

ABB is a leader in power and automation technologies that enable utility and industry customers to improve their performance while lowering environmental impact. The ABB Group of companies operates in around 100 countries and employs about 135,000 people.

In the wind power sector, ABB is the largest worldwide supplier of electrical solutions and the market and technology leader in generators, converters, motors, circuit breakers & contactors, transformers and HVDC.

Over the last 30 years ABB has delivered 30,000 generators to leading wind turbine customers all over the world - corresponding to a total 30 GW of power.

ABB built its first megawatt class doubly-fed generator in 1997, based on more than 100 years of experience in electrical machines.

For more information: www.abb.com/motors&generators

Contact us

www.abb.com/motors&generators
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